ABSTRACT OF THE DISCLOSURE

To provide an air conditioning system which simultaneously eliminates shortage of lubricating oil of a variable displacement compressor and degradation of cooling efficiency of the system. An air conditioning system is configured to have a variable displacement compressor under flow rate control by a proportional flow rate control solenoid valve forming a variable orifice in a discharge-side refrigerant flow passage, and a constant differential pressure valve for controlling a differential pressure (PdH - PdL) across the variable orifice, developed depending on a flow rate Qd of refrigerant, to a constant level, and an expansion valve of a normal charge type. By providing the expansion valve of the normal charge type, it is possible to always hold refrigerant at an outlet of an evaporator in a superheated state, whereby even during low load operation, high cooling efficiency can be maintained. Further, the proportional flow rate control solenoid valve can be controlled such that it causes refrigerant to flow at a minimum flow rate required for circulation of oil in response to an external signal. This makes it possible to prevent the variable displacement compressor from falling short of lubricating oil during the low load operation.